



Small Business Innovation Research Small Business Technology Transfer

Gynelle Steele | Finding Opportunities within the NASA AR Mission Directorate | 03.29.18

Aeronautics Research Mission Directorate (ARMD)

- NASA's Aeronautics Research Mission Directorate (ARMD) expands the boundaries of aeronautical knowledge for the benefit of the Nation and the broad aeronautics community, which includes the Agency's partners in academia, industry, and other government agencies.
- ARMD is conducting high-quality, cutting-edge research that will lead to revolutionary concepts, technologies, and capabilities that enable radical change to both the airspace system and the aircrafts that fly within it, facilitating a safer, more environmentally friendly, and more efficient air transportation system.
- At the same time, we are ensuring that aeronautics research and critical core competencies continue to play a vital role in support of NASA's goals for both manned and robotic space exploration.

<https://www.nasa.gov/aeroresearch>

NASA Aeronautics – 6 Strategic Thrusts



Safe, Efficient Growth in Global Operations

- Enable full NextGen and develop technologies to substantially reduce aircraft safety risks



Innovation in Commercial Supersonic Aircraft

- Achieve a low-boom standard



Ultra-Efficient Commercial Vehicles

- Pioneer technologies for big leaps in efficiency and environmental performance



Transition to Low-Carbon Propulsion

- Characterize drop-in alternative fuels and pioneer low-carbon propulsion technology



Real-Time System-Wide Safety Assurance

- Develop an integrated prototype of a real-time safety monitoring and assurance system



Assured Autonomy for Aviation Transformation

- Develop high impact aviation autonomy applications

Aeronautics Programs

Advanced Air Vehicle Program

Innovative design concepts developed by AAVP for advanced vehicles integrate multiple, simultaneous vehicle performance considerations that focus on fuel burn, noise, emissions and intrinsic safety. The goal: to enable new aircraft to fly safer, faster, cleaner, quieter, and use fuel far more efficiently.



Airspace Operations and Safety Program

The goal of AOSP-developed NextGen methods and means is to provide advanced levels of automated support to air navigation service providers and aircraft operators for reduced air travel times and air travel-related delays, and to insure greater safety in all weather conditions. By moving key concepts and technologies from the laboratory into the field, AOSP helps to make air travel as safe and efficient as possible – today as well as tomorrow – to directly benefit the flying public.



Integrated Aviation Systems Program

The objective of the IASP is to conduct flight oriented, integrated, system-level research and technology development that supports the flight research needs across the ARMD strategic thrusts, the programs and their projects.



Transformative Aeronautics Concepts Program

Cultivates multi-disciplinary, revolutionary concepts to enable aviation transformation. Focus is on sharply focused research, and also provides flexibility for innovators to explore technology feasibility and provide the knowledge base for radical transformation.



ARMD Programs with Strategic Thrusts

Mission Programs

Airspace Operations and Safety Program (AOSP)

- Safe, Efficient Growth in Global Operations
- Real-Time System-Wide Safety Assurance
- Assured Autonomy for Aviation Transformation



Advanced Air Vehicles Program (AAVP)

- Ultra-Efficient Commercial Vehicles
- Innovation in Commercial Supersonic Aircraft
- Transition to Low-Carbon Propulsion
- Assured Autonomy for Aviation Transformation (future)



Integrated Aviation Systems Program (IASP)

- Flight Research-Oriented Integrated, System-Level R&T supporting all six thrusts
- X-Planes/Test Environment



Seedling Program

Transformative Aeronautics Concepts Program (TAC)

- High-risk, leap-frog ideas supporting all six thrusts
- Critical cross-cutting tool and technology development
- Assured Autonomy for Aviation Transformation



Contact us and let's innovate together

Website: **www.sbir.nasa.gov**

NASA Help Desk: **301.937.0888**